

## **Tectonic Evolution of the Çayırhan Neogene Basin (Ankara), Central Turkey**

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**ABSTRACT:** Çayırhan (Ankara) is located at crossroads of the Western Anatolian extensional region, analogous to the Basin and Range Province, and suture zone of the Neotethys-Ocean, which is locus of the North Anatolian Transform since the Late Miocene. To the north of Çayırhan (Ankara), a Neogene sedimentary basin comprises Lower-Middle Miocene and Upper Miocene age formations, characterized by swamp, fluvial and lacustrine settings respectively. This sequence is folded and transected by neotectonic faults.

The Sekli thrust fault is older than the Lower-Middle Miocene age formations. The Davutoğlu fault is younger than the Lower-Middle Miocene formations and is contemporaneous to the Upper Miocene formation. The Çatalkaya fault is younger than the Upper Miocene formation.

The sedimentary and tectonic features provide information on mode, timing and evolution of this Neogene age sedimentary basin in Central Turkey. It is concluded that the region underwent a period of uplift and erosion under the influence of contractional tectonics prior to the Early-Middle Miocene, before becoming a semi-closed basin under influence of transtensional tectonics during the Early-Middle Miocene and under influence of predominantly extensional tectonics during the post-Late Miocene times.

**Keywords:** Tectonics, Extension, Transtension, Stratigraphy, Neotectonic features.